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ABSTRACT

The relative contributions of a research assistantship experience to graduate training programs in counseling psychology and student personnel were evaluated. The following areas were assessed: (1) the extent to which research competencies are enhanced among former research assistants; (2) the extent to which attitudes toward research are enhanced among former research assistants; and (3) the variables within the assistantship that are associated with positive attitudes toward research and increased research productivity. Subjects were 53 former research assistants of the Testing, Research, and Data Processing Unit of the University of Maryland (College Park) Counseling Center. Of this total, 41 participants completed and returned a four-part survey, which included a personal background questionnaire, the Modified Environment Inventory, a critical incidents item, and the skill competency inventory. With respect to research participation and productivity, 32% of the respondents indicated that they had published one or two journal articles in the past 2 years, and 37% indicated that they had presented 1 to 5 scholarly papers at conferences during this period. Respondents tended to have favorable attitudes toward research and generally agreed that their experiences as research assistants had enhanced their competencies as researchers. Respondents felt most competent in collaborating with colleagues on research and in scholarly presentations at meetings. Recommendations are provided based on the study's findings. Five tables present the findings. (Author/SLD)

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Summary

The purpose of this study was to evaluate the relative contributions of a research assistantship experience to graduate training programs in counseling psychology and student personnel. The following three areas were assessed: (1) the extent to which research competencies and (2) attitudes toward research are enhanced among former research assistants; and (3) the variables within the assistantship that are associated with positive attitudes toward research and increased research productivity. Subjects were 41 former research assistants of the Testing, Research and Data Processing Unit of the University of Maryland at College Park, Counseling Center. With respect to research participation and productivity, 32% of the former assistants indicated that they had published 1-2 journal articles in the past two years and 37% indicated that they had presented 1-5 scholarly papers at conferences during this period of time. Respondents tended to have favorable attitudes toward research and generally agreed that their experiences as a research assistant had enhanced their competencies as a researcher. Respondents felt most competent in collaborating with colleagues on research and in scholarly presentations at meetings. Recommendations are provided based on the study's findings.

Introduction

The need to increase research activity among professionals in applied fields has received a great deal of attention in recent years. This concern has been particularly addressed by professionals in the fields of counseling psychology (American Psychological Association, 1952; Gelso, 1979; Gelso Raphael, Black, Rardin, & Skalkos, 1983), and student personnel (Brown, 1987). Winfrey (1984) advocates that counselor educators need to make greater efforts to incorporate research into their roles as practitioners, as these efforts can only contribute to professional growth and survival. Vacc & Loesch (1984) also stress that counseling and student personnel professionals not only be "people helpers", but scientific researchers as well in order to enhance their roles as professionals.

The primary dilemma addressed by these researchers is that, despite the need to advance these professions through scientific inquiry, graduates from these training programs are typically more interested in practice than research. In fact, Adelstein (1976) found that students entering counseling psychology graduate programs had no or little interest in research. Gelso (1979) further demonstrated that graduates from these programs showed little interest in research beyond the dissertation (Gelso, 1979). According to Seeman (1973), "the development of research skills is one of the major tasks of professional growth and it is the task that sometimes causes the greatest anguish" (p. 900).

Some attention has been given to identifying the variables that contribute not only to positive attitudes toward research, but to the likelihood of continuing research activity beyond the dissertation. Gelso et al. (1983) conducted a study that assessed the attitudes toward research among counseling psychology students and graduates from these programs. Specifically, they sought to determine whether attitudes toward research changed during training and to identify those variables within the graduate training program that facilitated or impeded interests or skills in research. Gelso et al. (1983) found that while students and graduates reported modest levels of interest in conducting research upon entry to their program, interest levels tended to increase as they advanced through their graduate programs. Gelso et al. (1983) also identified three variables that influenced shifts in attitudes toward research: (1) social/interpersonal interactions; (2) training in applied, practical, and less traditional approaches in research; and (3) early, active involvement in research.

Field or assistantship experiences can also contribute to positive attitudes and increased competencies among graduate students in counseling and student personnel, yet, little research has been done to determine the extent of this contribution. Vacc & Loesch (1983) noted that trainees' participation in supervised field experiences offers perhaps the best opportunity to integrate research skills into actual

practice and allows trainees to experience the intricacies and idiosyncracies of attempting to obtain and interpret valid information. These writers added that the supervision at these field experiences allowed trainees ample opportunity to discuss their activities, become aware of alternative strategies, and obtain constructive feedback on the nature of their approaches. Stockton & Hulse (1983) found that collaborative apprenticeship programs enhanced research competency among graduate students in counseling.

It seems only reasonable to assume that research experience received by graduate students outside of these graduate training programs can enhance a student's research competencies, foster positive research attitudes, and even encourage the student to continue such research in his or her subsequent careers. Furthermore, these outside-school opportunities may provide more broad research competencies than those expected in the graduate program, and provide an experience in collaborative research.

The purpose of this study was to conduct an evaluation of one of these "outside" research opportunities available to doctoral students in student personnel, counseling psychology and counseling education --- the Testing Research, and Data Processing Unit (TRDPU) of the University of Maryland at College Park, Counseling Center. More specifically, the purpose of this study was to determine the value of a research assistantship experience in contributing to the development of research activity and competencies over and beyond graduate training. The

study concerned three areas: (1) the extent to which research competencies and (2) attitudes toward research are enhanced among former TRDPU research assistants as a result of their assistantship experience; and (3) the variables within the assistantship that are associated with positive attitudes toward research and increased research productivity.

The Testing, Research, and Data Processing Unit (TRDPU)

TRDPU is a division of the University Counseling Center, University of Maryland at College Park. Headed by one of the Assistant Directors of the Center, TRDPU is responsible for providing testing resources for the University and surrounding community, conducting research on a variety of educational and psychology issues, consulting with various university departments and non-University organizations on testing, research and data processing, and providing computer support for research conducted at the Center, and other student services.

Each year, TRDPU employs 4-8 graduate students as research assistants. These students typically come from two graduate programs, the Counseling and Personnel Services Program (CAPS) of the College of Education, and the Counseling Psychology Program of the Department of Psychology. The major role of the research assistants is to conduct research on educational and psychological topics. Research activity includes developing research proposals, writing research reports, planning team research projects, collecting data, analyzing data with the use of computer facilities, and preparing manuscripts for

publication. Other responsibilities include providing consultation research services to other campus agencies and departments, and presenting research at local and national conferences and meetings. Research assistants typically work for two years.

In addition to the number of functions for which TRDPU assistants are responsible, individual goals are set at the beginning of the year. These goals relate to areas that the research assistant and supervisor identify as skills that need developing and may vary according to past experiences, competencies and interests. At the end of each year, the Director of TRDPU evaluates each research assistant based on eight dimensions: (1) knowledge of statistics and research procedures; (2) integration of learning; (3) cooperation; (4) initiative; (5) writing; (6) oral presentation; (7) staff meeting contributions; and (8) overall development.

Method

Subjects. Of the 74 former research assistants of TRDPU, 65 names and addresses were located and sent survey instruments.

Procedure. Participants were sent a four-part survey which included a personal background questionnaire, the modified Academic Environment Inventory (Royalty, 1982), a critical incidents item, and the skill competency inventory. Survey instruments were sent to each participant with cover a letter and a stamped, addressed envelope. In order to maintain anonymity but allow for follow-up of those who did not respond,

participants were also instructed to return an enclosed postcard separately from their questionnaires. Follow-up postcards were sent within four days of mailing the survey instruments to remind participants to return their surveys.

The Academic Environment Inventory (Royalty, 1982) was originally created to assess the research attitudes of counseling psychology doctoral students based on their graduate training. The measure used in this study has been modified to assess research attitudes among former TRDPU assistants based on their assistantship experiences. Respondents were instructed to indicate their extent of agreement on 21 items relating to attitudes on different research activities on a scale ranging from 1 (strongly agree) to 5 (strongly disagree). These activities included data analyses, planning research, writing research reports, and collaborating with colleagues.

A critical incidents item was used to identify variables that facilitated positive attitudes and behaviors in research as a result TRDPU experience. The critical incidents item is stated as follows:

> In the space below, please describe one outstanding incident that occurred when you were a TRDPU graduate assistant, that has positively influenced the way you presently think about research. If such an incident has influenced your decision to continue research after graduate training, please describe how this incident has done so.

A skill and competencies inventory was comprised of a list of nine research skills (e.g., program evaluation, research writing, use of statistics, etc). Respondents were instructed to indicate the extent to which they felt competent in each of these skills of areas of competencies as a result of their TKDTU experiences. Ratings were based on the following Likert-type scale: 1 = extremely competent; 2 = competent; 3 = moderately competent; 4 = not so competent, and 5 = not at all competent.

Results

A total of 12 surveys did not reach former graduate assistants because of incorrect addresses. Of 53 surveys that presumably reached subjects, 41 were returned (77% return rate).

Following are descriptions of the results of the survey according to four areas: (1) personal background information; (2) attitudes toward research; (3) perceived research competencies; and (4) variables facilitating positive attitudes toward research.

I. Personal Background Information

Demographic Characteristics. Most respondents (80%) were graduates in about equal numbers, from two programs: The Counseling Psychology program and the Counseling and Personnel Services program. The majority of respondents received either Ph.D.s or Ed. D.s (61%) from the University. Only one respondent had not completed a degree program at the time the survey was completed.

Insert Table 1 Here

Twenty-seven percent of survey respondents received their degrees between 1973 and 1976. This was followed by 22% reporting that they received their degrees between 1985-1987 and 20% who received their degrees between 1981 and 1984. A similar trend occurred with respect to participants' report of their last year employed as a TRDPU assistant.

Thirty-seven percent of the survey respondents completed their degree programs when they were between 30-35 years of age. This was followed by 29% of the respondents who received their degree between 26-29 years of age.

When asked to indicate the nature of their present occupation, 32% of those responding reported being employed as practitioners (e.g., psychotherapist, agency counselor, counseling center psychologist), 21% reported that they were employed in academic positions (e.g., assistant, associate, or full professor), and 17% reported being employed in administrative occupations (e.g., director of a mental health agency, academic dean of a college, etc.). Other respondents reported being employed as consultants and as having a combined function occupation (e.g., practitioner and assistant professor).

Research Participation and Productivity in the Past Two Years

Over half of the respondents (51%) reported that they

conducted research at their present jobs. When respondents were asked to approximate the amount of time they spent doing research at their job setting, 17% indicated that they spend 5% or less, while 15% of the respondents indicated that 6-29% of their employment time was spent involved in research. Five percent of the respondents indicated that they spend 70-100% doing research at their present job.

To obtain information on research productivity of former TRDPU graduate assistants, respondents were asked to indicate the number of scholarly products they had generated in the past two years. These scholarly products were categorized as follows: (1) journal articles, (2) research reports, (3) research proposals, (4) conference presentations based on research, and (5) research-related consultations. With respect to journal articles, a large percentage (46%) indicated that they had generated no articles in the past 2 years, followed by 32% who indicated that 1-2 of their articles had been published. A similar trend was noted with research reports: most respondents (42%) indicated that no research reports were generated in the past 2 years, while 29% indicated that 1-2 reports had been generated during this time. The other 3 categories --- research proposals, conference presentations, and consultations --- represented activities in which a large majority of respondents were engaged. Forty-six percent of respondents indicated that they have generated 1-2 proposals in the past 2 years. Thirty-seven percent indicated generating 1-5 conference presentations,

and 32% had consulted in 1-5 research projects.

Insert Tables 2 & 3 Here

II. Attitudes Toward Research

The purpose of this section of the survey was to determine how favorable or unfavorable different aspects of research were perceived by former TRDPU research assistants. Participants were asked to rate the extent to which they agreed to several items relating to varying research activities as a result of their experiences as a TRDPU assistant. Participants responded most favorably to the item: "The entire research process is an unpleasant activity," to which there was strong disagreement (M=4.30; S.D.=.64). Respondents tended to strongly agree that their overall experiences as a TRDPU researcher had enhanced their competencies as a researcher (M=1.85; S.D. = .88). Another item on this questionnaire with which respondents tended to strongly disagree was "I did not perceive my research experience at TRDPU as particularly valuable (M=4.10; S.D.=94). Finally, respondents tended to strongly agree that they enjoyed collaborating with colleagues to develop ideas for research studies (M=2.32, S.D.=1.09).

Insert Table 4 Here

II. Perceived Research Competence

Table 5 shows that respondents felt most competent in collaborating with colleagues on research (M=2.15; S.D.=1.03) and in scholarly presentations at meetings (M=2.15; S.D.=.94). Respondents felt least competent in program evaluation (M=2.92; S.D.=1.15) and use of a computer (M=2.85; S.D.=1.53).

Insert Table 5 Here

Variables Facilitating Positive Attitudes Toward Research

Seventy-one percent of survey participants provided responses to the critical incidents item concerning an outstanding incident that positively influenced the way they presently think about research. However, instead of offering a single incident, the majority of participants who responded (80%) indicated some aspect of the overall experience that positively influenced their attitudes towards research. Nearly 50% of TRDFU participants indicated that the experience of being a part of research team and collaborating with others in a supportive environment influenced the way they presently think about research. Another theme which addressed an overall aspect of the TRDPU experience was completing the entire research process and gaining some competence in undergoing every stage of the research process and the persistence related to this goal setting. Twenty-five percent of respondents expressed this theme and 1% indicated that "being published" positively influenced their

attitudes towards research.

Specific incidents given by respondents all related to consultative projects where the assistant was able to not only experience every "nuance and detail" of the research, but was often able to see the benefits of the product being translated into decisions.

Conclusions and Recommendations

Results showed that 26% of participants had occupations that involved an academic component which is often considered the place where research is conducted. Fifty-one percent conducted research on the job, with 35% spending 30-100% of their employment time engaged in research.

Forty-two percent of former TRDPU assistant had published in journals in the past 2 years and the more popular research activities included research presentations at conferences (62%) and consultation with other research projects (84%).

With respect to attitudes toward research, participants tended to respond most positively to the overall value of the research process and the collaborative experience as a member of research team. In fact, these overall experiences were responded to more favorably in comparison to specific research activities, such as analyzing data, writing reports, planning research. This may reflect the fact that assistants usually start out with specific strengths and weaknesses that are identified early and a plan is generally made to help the assistant to overcome their weaknesses. Consequently, each assistant had different areas

that they considered positive, possibly because they had to concentrate on those areas, and other areas that were already developed and did not influence their attitudes toward research. In addition, several respondents commented on the survey that the passage of time has made it difficult to remember specific incidents that may have occurred during their tenure.

TRDPU participants generally saw themselves as competent in the area of collaborative research and scholarly presentations at conferences. They considered themselves as least competent (although still in the "competent" range) in program evaluation, computer use, and research consultation. Respondents perceived competency in collaborative research is not surprising when one considers that the team research process forms the basis for much of the research conducted by TRDPU assistants. Practice in presenting scholarly papers at conferences is typically valued by students because it serves to minimize the anxiety associated with making oral presentations. Furthermore, students who are usually not confident in their research skills, may receive some benefit from the immediate feedback given by conferees (i.e., positive reactions and constructive comments). Respondents' indications that they perceived themselves as less competent in program evaluation possibly reflects a need to include this type of research in the experience of all research assistants. Micro computer facilities at the unit have become more widely available for student use in the past few years. In previous years most of the computer work was done on a mainframe computer by a

supervisor of data processing.

Involvement in consultation projects can enable students to collaborate professionally as researchers with individuals from university or community settings. Because of students' indications that they are relatively less competent in this type of research (i.e., research consultations), it may be important to include this more often in the role of the research assistant. Because the consultation process is typically long-term and takes a good deal of time, it may not always be available to all students, particularly those students who come in as assistants for the first time. In fact, consultation research should possibly be reserved for students who persist as research assistants in their second year and who have shown readiness in this type of involvement.

Gelso et al. (1983) found that social/interpersonal interactions were a primary variable that influenced shifts in attitudes toward research. This is congruent with findings from the critical incidents item which found that the majority of respondents indicated that the overall collaborative nature of research teams supported by a supportive milieu influenced their positive attitudes towards research. This sentiment was expressed most eloquently in the following examples:

> "Conducting teach projects... makes research less of a lonely and tedious endeavor. Also, it allows people to utilize their strengths without obsessing over their weakness.. (T)eam research enables the person to feel good

about their contribution and slowly pick up the skills in other areas."

This statement reflects Seeman's (1973) claim that a lack of research productivity among psychologists is a result of the nature of training itself, and concluded that the psychological climate of the teaching-learning situation is important to maximize learning.

The idea of confidence and competency related to a past experience with TRDPU typically centered on incidents where the entire research process was fully experienced from beginning to end and the product was one where practical decisions were made. The value of consultation work in applied setting is also reflected in the findings of Gelso et al. (1983) as the other two primary variables that have influenced students' shifts in attitudes towards research. These variables--- applied, practical, and less traditional approaches to research and early, active involvement in research point to the importance of perceiving research not only as valuable and interesting, but as an activity in which many students would prefer to have continued involvement.

That the majority (51%) of respondents were currently involved in research and, generally, indicated positive attitudes toward research can be encouraging to the field of counseling psychology and student personnel. Graduates with research assistantship experience may derive benefit from the "hands-on" experience of research which further contributes to the tendency

toward active involvement past the dissertation. As some respondents had noted, seeking the assistantship initially reflects some possible bias in comparing this sample of graduates to other graduates from these programs. Nonetheless, several variables have been identified as contributing to the development of continued research interests. Findings suggest that graduate faculty members may want to encourage students to acquire research assistantship experience as a way of increasing the likelihood for continued research involvement among counseling psychology and student personnel graduates.

Recommendations:

This study's findings can be translated into recommendations for enhancing the TRDPU experience for future research assistants.

(1) Research assistantships should be assigned to at least one project related to evaluation research to develop competencies in this area.

(2) Advanced research assistants (those demonstrating competencies in several research skills and who have persisted to the second year of commitment) should become involved in a major research consultation project and be able to follow through with this project from the beginning (defining the problem and preparing stages for the resolution) to the end (recommendations and follow-up contacts). To ensure the commitment of both the consultee and research assistant, contracts should be drawn as is done typically by professional consultants.

(3) Maintain the atmosphere of collegial support and the opportunity for collaborative/team research. Individual research assistants may even profit from working with a research partner who has a strength in a particular research area in which the other has a relative weakness. This dyadic relationship could offer a more intensive experience which would not have to limit frequency of contact that often occurs with trying to meet with several people at one time.

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Table 1

Personal Background Characteristics
of TRDPU Respondents

Graduate Department Enrolled	N	%
Psychology	18	44
Counseling & Personnel Svcs.	18	44
Measurement & Statistics	3	7
Human Development	2	3
Highest Degree Completed		
Ph.D. or Ed.D.	33	81
Master's	7	17
No degree completed	1	2
Year of Degree Completion		
1969-1972	7	17
1973-1976	11	27
1977-1980	3	7
1981-1984	8	20
1985-1987	9	22
Will earn degree in 1988	1	2
Final Year as TRDPU Assistant		
1969-1972	9	23
1973-1976	10	26
1977-1980	6	15
1981-1984	7	18
1985-1987	6	15
Age When Degree Was Completed		
23-25 years	2	3
26-29 years	12	29
30-35 years	15	37
36 year and over	4	10
Present Occupation		
Administrative	7	17
Academic	8	21
Practice	13	32
Consultative	2	5
Academic & Practice	2	5
Administrative & Academic	4	7
Other	4	10

Table 2

Research Participation

Conducts Research at Present Job	N	%
Yes	21	51
No	17	47
% of Employment Time Spend Doing Research		
None	17	41
5% or less	7	17
6%-29%	6	15
30%-49%	4	10
50%-69%	4	10
70%-100%	2	5

Table 3

Research Productivity in Past Two Years

Articles Published in Journal	N	%
None	19	46
1-2 articles	13	32
3-5 articles	2	5
6 or more articles	2	5
Research Reports		
None	17	42
1-2 reports	12	29
3-5 reports	5	12
6 or more reports	3	7
Research Proposals		
None	12	29
1-2 proposals	19	46
3-5 proposals	6	15
6 or more proposals	1	5
Research Presentations at Conference	N	%
None	12	29
1-5 presentations	15	37
6-10 presentations	5	12
11-15 presentations	4	10
16 or more presentations	1	3
Consultated with Another Research Project		
None	7	17
1-5 consultations	13	32
6-10 consultations	8	20
11-15 consultations	9	22
16 or more consultations	4	10

Table 4

Attitudes Toward Research Activities:
Means* & Standard Deviations of Respondents

	Item	Mean	Standard Deviation
1.	Overall, my experiences as a TRDPU research assistant have enhanced my competencies as a researcher.	1.85	.88
2.	As a result of my experiences as a TRDPU research assistant, I enjoy collaborating with my colleagues to develop ideas for research studies.	2.32	1.09
3.	I did <u>not</u> perceive my research experiences at TRDPU as particularly valuable.	4.10	.94
4.	TRDPU offered me a mentor who positively influenced my research interests.	2.61	1.30
5.	I was more interested in doing research than the other students in my graduate program as a result of my experiences with TRDPU.	2.70	1.08
6.	One of the factors I considered most important in my decision to work as a TRDPU research assistant was my interest in doing research in this field.	2.47	1.13
7.	As a result of my experiences as a TRDPU research assistant, I find discussing a study with others to be a satisfying activity.	2.44	1.10
8.	As a result of my experience as a TRDPU research assistant, I find the entire research process to be a satisfying activity.	2.54	1.03
9.	I feel insecure when I think about doing research.	3.44	1.40

		Mean	Standard Deviation
10.	As a result of my experience as a TRDPU assistant, I find planning a research study to be a satisfying activity.	2.52	.93
11.	Research is not an important part of my work week.	3.12	1.50
12.	As a result of my experiences as a TRDPU research assistant, I find that determing the appropriate statistical analyses for a study is satisfying activity.	2.92	1.16
13.	Writing a research article is an unpleasant activity.	3.61	.92
14.	The entire research process is an unpleasant activity.	4.30	.64
15.	As a result of my experiences as a TRDPU research assistant, I find analyzing research data to be a satisfying activity.	2.67	1.06
16.	My TRDPU experience provided an unsupportive environment for learning about research.	4.15	1.12
17.	Analyzing research data is an unpleasant activity.	3.97	.82
18.	My TRDPU experience prepred me for the difficulties one experiences in doing research.	2.36	.93
19.	As a TRDPU research assistant, there were no appropriate persons available to me as mentors.	3.85	1.12
20.	Doing research is not intrinsically interesting to me.	3.89	1.08
21.	My TRDPU research experience has helped me to get a job since leaving school.	3.08	1.30

* 1 = Strongly agree; 5 = Strongly disagree

Table 5

Research Competencies:
Means* and Standard Deviations of Respondents

Item	Mean	Standard Deviation
Research writing	2.45	.72
Scholarly presentations at conference	2.15	.94
Program evaluation	2.92	1.15
Needs Assessment	2.52	1.17
Research consultation with agency or organization	2.75	1.19
Collaborating with colleagues on research study	2.15	1.03
Use of statistics	2.45	1.11
Use of computer (for analyzing data)	2.85	1.53
Publishing research studies	2.40	1.03

* 1 = Extremely competent; 5 = Not competent at all